

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A workflow management system for automating a business process, comprising:

a computer;

an administrator executable by the computer, wherein the administrator manages automating the business process and comprises an organization manager, a role/group manager, an authority manager, a process manager, and a folder manager;

a process designer executable by the computer, wherein the process designer determines flows and properties of the business process and defines an activity that is performed in the business process;

a database accessible by both the administrator and the process designer, wherein the database stores organization information, authority information, and folder information relating to the business process;

a process engine executable by the computer, wherein the process engine executes the business process and allocates the activity to the participant, monitors a start and end of the activity, facilitates storing a result of the activity, and/or interfaces with the database, another workflow engine, and/or a business application program;

a web client, that interfaces with the process engine, the another workflow engine, and/or the business application program, and wherein the web client permits a user to interact with the system; and

a form generator executable by the computer, wherein the form generator designs and

operates an electronic form related to the business process, and wherein the form generator interfaces with the database, the process designer, the process engine, the web client, and/or the business application program.

2. (Previously Presented) The workflow management system of claim 1,

wherein the organization manager creates, deletes, and maintains information about a department associated with the business process;

wherein the role/group manager creates, deletes, and maintains information about a role and a user group associated with the business process;

wherein the authority manager creates, deletes, and maintains information about an authority that can access the business process and the application program, and wherein the authority manager further allocates the authority information to the information about the role, the group and a member of at least one of the department and the user group; and

wherein the folder manager creates, deletes, and maintains information about a folder.

3. (Original) The workflow management system of claim 2, further comprising an object manager, wherein the object manager interfaces the administrator with the database.

4. (Original) The workflow management system of claim 3, wherein the database further comprises:

an organization database;

authority database; and

a folder database.

5. (Previously Presented) The workflow management system of claim 1, wherein the process designer comprises:

a graphic designer executable by the computer that creates and designs an activity and the business process using a graphical user interface; and

a property designer executable by the computer that defines a property of the activity to be executed in the business process.

6. (Previously Presented) The workflow management system of claim 5, wherein the property designer further comprises an object manager that interfaces the designer with the database.

7. (Original) The workflow management system of claim 6, wherein the database comprises:

a process definition folder that contains information related to the business process modeling;

a data folder that contains data generated by the business process execution; and
an organization folder.

8. (Original) The workflow management system of claim 1, wherein the web client further comprises:

a worklist handler;

a workitem handler; and

a process monitor.

9. (Original) The workflow management system of claim 8, wherein the worklist handler maintains a work list for a user.

10. (Previously Presented) The workflow management system of claim 9, wherein the workitem handler supports execution of the business process.

11. (Previously Presented) The workflow management system of claim 10, wherein the process monitor checks status of the business process.

12. (Previously Presented) The workflow management system of claim 11, wherein the process monitor further checks a history of the business process and current progress of the business process.

13. (Previously Presented) The workflow management system of claim 12, wherein the process monitor further monitors resource utilization.

14. (Previously Presented) The workflow management system of claim 2, wherein the organization manager further creates, deletes and maintains i) information about relationships between the department, rank of a member in the department and/or user group, and ii) information regarding the member in the department and/or user group.

15. (Previously Presented) The workflow management system of claim 14, wherein the organization manager further registers a signature of each member of the department and/or user group.

16. (Previously Presented) The workflow management system of claim 2, wherein the role/group manager allocates the member information to the role information and the user group information.

17. (Previously Presented) The workflow management system of claim 2, wherein the authority manager allocates the authority information to information about the role, the group and the member of the department and/or the user group.

18. (Cancelled)

19. (Previously Presented) The workflow management system of claim 5, wherein the property designer creates, deletes, and maintains a business rule associated with the business process.

20. (Previously Presented) The workflow management system of claim 19, wherein the business rule includes information that defines a term associated with the business process, defines a condition associated with the business process, and/or defines a transition path to be used when the activity is completed.

21. (Previously Presented) The workflow management system of claim 5, wherein the process designer further comprises a check-out table.

22. (Previously Presented) The workflow management system of claim 21, wherein the check-out table contains information on a process model currently checked-out by a user.

23. (Previously Presented) The workflow management system of claim 22, wherein the system keeps a currently checked-out process model from being simultaneously checked-out by another user by referring to the check-out table.

24. (Previously Presented) The workflow management system of claim 1, wherein the

process engine comprises:

- an interface agent that interchanges information about a status of the business process with other process engines;

- a request manager that receives requests from the user, directs the process engine to handle the requests, and returns results to the user;

- a dispatcher that retrieves and executes the requests and stores results in the database;

- a scheduler;

- a security manager that controls a certification process with an outside certification server; and

- a database broker that interfaces with the process engine and the database.

25. (Previously Presented) The workflow management system of claim 24, wherein the process engine allocates the activity to the participant and a status the activity comprises one of a state selected from the group consisting of: an initial state; a waiting state; a dead state; a running state; a suspended state; a completed state; a terminated state; an error state; and an overdue state.

26. (Previously Presented) The workflow management system of claim 24, wherein the scheduler manages a deadline of the activity and/or a waiting state of the activity.

27. (Previously Presented) The workflow management system of claim 24, wherein the security manager further encodes and decodes information.

28. (Previously Presented) The workflow management system of claim 25, wherein the activity

transits among the states according to a business rule.

29. (Previously Presented) The workflow management system of claim 28, wherein the process engine controls the workflow using a transition count to keep the transitions between activity states consistent with the business rule.

30. (Previously Presented) The workflow management system of claim 29, wherein the process engine sets to zero the transition counts of all the transitions that can be processed in a forward direction from the activity, when the activity is started.

31. (Previously Presented) The workflow management system of claim 30, wherein the process engine further sets to one the transition counts of the transitions stemming from execution of the activity, when the activity is completed.

32. (Previously Presented) A method for automating a business process, the method comprising steps of:

- modeling the business process, wherein the step of modeling includes generating an organization chart;

- defining an activity that is performed in the business process;

- accessing, from a database, organization information, authority information, and/or folder information relating to the business process;

- executing the business process, wherein the step of executing the business process includes allocating the activity to a participant, and designing and creating an electronic form related to the business process; and

- monitoring the business process, wherein the step of monitoring the business process

comprises monitoring a start and end of the activity, facilitating storing a result of the activity, and/or interfacing with a workflow program and/or business application program.

33. (Previously Presented) The method of claim 32, wherein the step of modeling the business process further comprises:

- mapping at least one of departments, members, member titles and member roles to
- generate the organization chart;
- creating a role; and
- allocating an authority to the role.

34. (Previously Presented) The method of claim 32, wherein the step of modeling the business process further comprises:

- mapping at least one of departments, members, member titles and member roles to
- generate the organization chart;
- creating a group of human resources; and
- allocating an authority to the group of human resources.

35. (Previously Presented) The method of claim 32, wherein the step of designing a process further comprises:

- identifying an activity to be executed; and
- allocating a property to the activity.

36. (Previously Presented) The method of claim 35, wherein the activity comprises:

- a start activity that starts a process;
- a normal activity that involves an intervention by a participant;

- a wait activity;
- a mail activity;
- an SQL activity that accesses an application database;
- a sub-process activity that comprises a plurality of separate activities;
- an agent activity that automatically activates a program;
- a connector activity; and
- an end activity that represents an end of the process.

37. (Previously Presented) The method of claim 35, wherein the property comprises:

- participant information that describes an individual that executes the activity;
- application information that describes a business application to be used by the individual to execute the activity;
- post-condition information that determines when the activity is completed;
- schedule information that describes planning of the activity;
- deadline information that describes timing for executing the activity;
- sub-process information that describes a location and an option of the sub-process activity;
- parameter information that defines a value necessary for executing a program in an agent activity;
- mail-to information that determines a recipient of e-mail in a mail activity;
- mail content information that represents the content of e-mail in the mail activity;
- general information that shows a name and description of the activity;
- transition condition information that represents conditions for an input transition and an output transition; and
- icon information to display an icon on a graphical user interface.

38. (Previously Presented) The method of claim 35, wherein the participant can comprise one of or any combination of a user, a department and the role.

39. (Previously Presented) The method of claim 38, wherein the participant can be a manager of the participant.

40. (Previously Presented) The method of claim 38, wherein the participant can be a peer of the participant.

41. (Previously Presented) The method of claim 38, wherein the participant can be a department of the participant.

42. (Previously Presented) The method of claim 38, wherein activity is allocated based on a workload of the participant.

43. (Previously Presented) The method of claim 32, wherein generating an organization chart comprises mapping information about a department, a member name, a member title, and a member role.